

BASIC INTEGRATION FORMULAS	
1. $\int du = u + C$	13. $\int \cot u du = \ln \sin u + C = -\ln \csc u + C$
2. $\int k du = ku + C$ (any number k)	14. $\int e^u du = e^u + C$
3. $\int (du + dv) = \int du + \int dv$	15. $\int a^u du = \frac{a^u}{\ln a} + C \quad (a > 0, a \neq 1)$
4. $\int u^n du = \frac{u^{n+1}}{n+1} + C \quad (n \neq -1)$	16. $\int \sinh u du = \cosh u + C$
5. $\int \frac{du}{u} = \ln u + C$	17. $\int \cosh u du = \sinh u + C$
6. $\int \sin u du = -\cos u + C$	18. $\int \frac{du}{\sqrt{a^2 - u^2}} = \sin^{-1}\left(\frac{u}{a}\right) + C$
7. $\int \cos u du = \sin u + C$	19. $\int \frac{du}{a^2 + u^2} = \frac{1}{a} \tan^{-1}\left(\frac{u}{a}\right) + C$
8. $\int \sec^2 u du = \tan u + C$	20. $\int \frac{du}{u\sqrt{u^2 - a^2}} = \frac{1}{a} \sec^{-1}\left \frac{u}{a}\right + C$
9. $\int \csc^2 u du = -\cot u + C$	21. $\int \frac{du}{\sqrt{a^2 + u^2}} = \sinh^{-1}\left(\frac{u}{a}\right) + C \quad (a > 0)$
10. $\int \sec u \tan u du = \sec u + C$	22. $\int \frac{du}{\sqrt{u^2 - a^2}} = \cosh^{-1}\left(\frac{u}{a}\right) + C \quad (u > a > 0)$
11. $\int \csc u \cot u du = -\csc u + C$	23. $\int \sec u du = \ln \sec u + \tan u + C$
12. $\int \tan u du = -\ln \cos u + C = \ln \sec u + C$	24. $\int \csc u du = -\ln \csc u + \cot u + C$